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NOTES ON GEOGRAPHIC DISTRIBUTION

Crustacea, Cladocera, Anomopoda, Ilyocryptidae, *Ilyocryptus sarsi* Stingelin, 1913: A new record and geographic distribution in Brazil

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ABSTRACT: *Ilyocryptus sarsi* Stingelin, 1913 has a wide distribution in South America, with records from Brazilian states of São Paulo, Mato Grosso do Sul, Minas Gerais, Bahia, Maranhão, Pará, and Amazonas. The present paper reports, for the first time, the occurrence of I. sarsi in the Brazilian Central Plateau. The specimens were found in a wet campo in a natural protect area Gama-Cabeça-de-Veado in Brasília, Federal District, during the rainy season.

Until a few years ago, only three species of Ilyocryptidae Smirnov, 1976 were reported from Brazil: *Ilyocryptus spinifer* Herrick, 1882, *Ilyocryptus verrucosus* Daday, 1905, and *Ilyocryptus sordidus* (Liévin, 1848) (Elmoor-Loureiro 1998). However, recent taxonomic revisions have changed this scenario (Kotov and Dumont 2000, Kotov *et al.* 2002; Kotov and Stifter 2006; Kotov and Elmoor-Loureiro 2008). It was proposed that *I. verrucosus* was a junior synonymy of *I. spinifer* (Kotov and Dumont 2000). Kotov *et al.* (2002) recognized *Ilyocryptus sarsi* Stingelin, 1913, previously considered subspecies of *I. sordidus*, as a valid species. Three new species were reported from Brazil (Kotov and Elmoor-Loureiro 2008).

So, at the present time, five species are recognized to occur in Brazilian water bodies: *Ilyocryptus cuneatus brasiliensis* Kotov and Elmoor-Loureiro, 2008, *Ilyocryptus paranaensis paranaensis* Paggi, 1989, *Ilyocryptus sarsi*, *Ilyocryptus silvaeducensis paraensis* Kotov and Elmoor-Loureiro, 2008, and *Ilyocryptus spinifer*, which is the most frequently reported species.

Although not frequently reported, *I. sarsi* has a wide distribution in Brazil, occurring in the states of São Paulo, Mato Grosso do Sul, Minas Gerais, Bahia, Maranhão, Pará, and Amazonas (Kotov and Elmoor-Loureiro 2008). *Ilyocryptus sarsi* is presumed to occur in the Brazilian Central Plateau, because this region is inside its distribution range (Figure 1). Nevertheless, despite of the increase of studies on non-planktonic cladocerans in central Brazil (*e.g.* Elmoor-Loureiro 2007; Sousa and Elmoor-Loureiro 2008), *I. sarsi* have not been recorded from this region. At the present paper, the occurrence of *Ilyocryptus sarsi* from Brazilian Central Plateau is reported for the first time.

The specimens were found in a wet campo (wetland) marsh type (15°53'56" S, 47°56'40" W), adjacent to Cedro Pond located at Gama-Cabeça-de-Veado, a natural protect area in Brasília, Federal District, during the rainy season (February 2008). At the sampling point, the depth was 0.25 m, the saturation of dissolved oxygen was 55 % and the organic content of sediment was 77 %. For cladoceran sampling, a plankton net (100 μm mesh) was shaken near the bottom and passed through the aquatic vegetation, causing the upwelling of sediments, which were filtered. The specimens were fixed in 4 % formalin. The voucher specimens are deposited at the Laboratory of Zoology of Universidade Católica de Brasília.

FIGURE 1. Geographic distribution of *Ilyocryptus sarsi* in Brazil. Previous records (Kotov and Elmoor-Loureiro 2008; open symbols) and new record (solid symbol). AM = Amazonas, BA = Bahia, DF = Federal District (Brasília), MG = Minas Gerais, MS = Mato Grosso do Sul, PA = Pará, SP = São Paulo.

The specimens from wet campo (Figures 2A-2G) agreed with the general description of *I. sarsi* (Kotov *et al.* 2002): small size, dorsal margin interrupted by a shallow depression, postero-angle of the valves rounded; moulting incomplete; valves ovoid with hexagonal reticulations and numerous marginal setae (Figure 2A); setae of postero-portion of the valves with one spine near their base (Figure 2F); antennule of medium size, proximal segment with finger-like projection, distal segment without denticles on the surface (Figure 2E); antenna with basal seg-

ment robust and short branches with denticles around all distal segments ends, swimming setae 0-0-0-3/1-1-3 and spines 0-1-0-1/0-0-1 (Figure 2D); postabdomen laterally compressed, with 9-11 preanal spines, 10-12 postanal spines, 5-7 marginal spines ending near the anal-portion, and groups of lateral spinules (Figure 2B); postabdominal claws relatively short and thick, each claw bearing 1-4 denticules on distal portion, two relatively large basal spines, distal one slightly longer, and a group of relatively long setules on dorsal side (Figure 2C).

Like as the majority of the ilyocryptid species, *I. sarsi* inhabits mesobenthos (Kotov and Stifter 2006), so the specimens capture depends on the sediment sampling. Such habitus could explain the apparent rareness of *I. sarsi* in Brazil, as the mesobenthos have not been frequently investigated.

Likewise, the absence of previous records of *I. sarsi* from Federal District seems to be related to a sampling bias. Although studies on Cladocera of the Federal District have been intensified in recent years, samples were always collected from littoral or pelagic region. For instance, the cladocerans have been assystematically investigated in Cedro Pond for more than a decade. Nevertheless, the main attempt of the previous sampling was the species associated to macrophytes in littoral region from Pond, and mesobenthic fauna was investigated for the first time in the present study.

In conclusion, the present data suggests that *I. sarsi* could be more frequent in Brazilian water bodies than before reported in the literature. Also emphasizes the importance of the wetlands in assessing cladoceran fauna richness in Brazilian Cerrado.

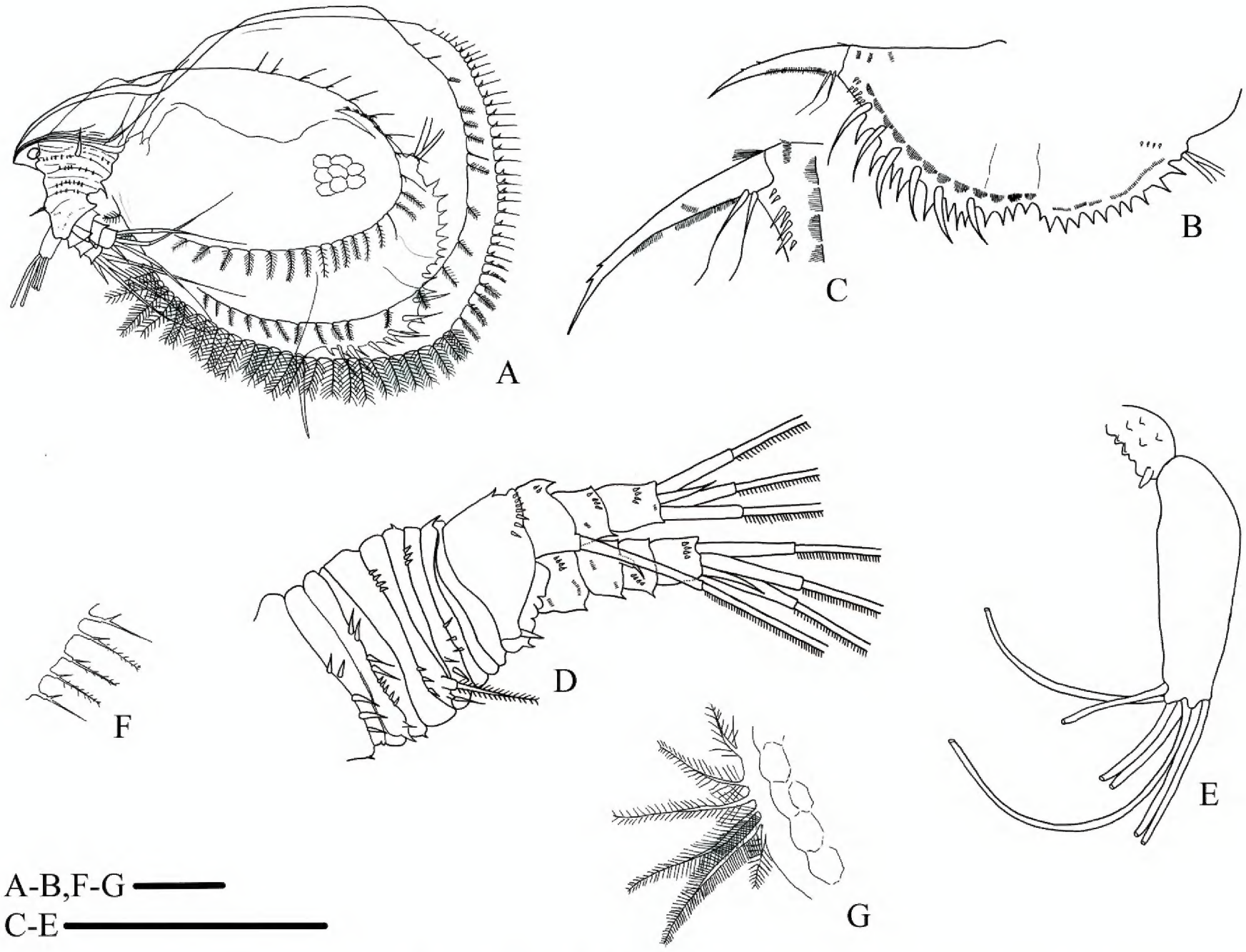

Figure 2. *Ilyocryptus sarsi*, parthenogenetic female from Brasília, Federal District. (A) Lateral view; (B) Postabdomen; (C) Postabdominal claws, lateral view; (D) Antenna; (E) Antennule; (F) Setae on postero-ventral valve portion; (G) Setae on antero-ventral valve portion. Scale bars = 100µm.

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